Before the
Federal Communications Commission
Washington, D.C. 20554

PR Docket No. 93-85

In the Matter of

Amendment of Part 97 of the	RM-7649	RM-7669
Commission's Rules Concerning	RM-7675	RM-7676
Message Forwarding Systems in	RM-7681	RM-7904
the Amateur Service.		

REPORT AND ORDER

Adopted: March 30, 1994; Released: April 13, 1994

By the Commission:

I. INTRODUCTION

1. On March 18, 1993, we adopted a *Notice of Proposed Rule Making (Notice)*[1] in the above-captioned proceeding. In the *Notice,* we proposed to relax the amateur service rules to enable contemporary message forwarding systems to operate at high speed while retaining safeguards to prevent misuse.[2] This *Report and Order* adopts the rules substantially as proposed and incorporates several minor modifications suggested in the comments.

II. DISCUSSION

2. Message forwarding systems have been a mainstream operating activity since the inception of the amateur service early in this century.[3] The development of digital technology now makes high volume, high speed communications systems practical. This development has resulted in thousands of amateur operators voluntarily linking their individually-licensed very-high frequency (VHF)[4] stations together to form easily-accessible *ad hoc* message forwarding systems.[5] Currently, the control operator of each station is held individually accountable for each message retransmitted. This introduces unnecessary message content review and resultant system delays. The objective of this proceeding, therefore, is to ascertain the accommodations that should be provided for amateur stations operated in contemporary high speed message forwarding systems to eliminate unnecessary oversight procedures. There were forty-two comments and two reply comments filed in response to the *Notice.*

3. The potential for transmitting a high volume of messages cannot be achieved because Section 97.103(a) of the Commission's Rules, 47 C.F.R. § 97.103(a), holds each station licensee and control operator accountable for the proper operation of the station. This requires, in effect, the control operator of every forwarding station to review each message for improper content prior to its retransmission.[6] The proposed new rule section provided that the control operators of intermediate forwarding stations, other than the first forwarding station, would not be held accountable when their stations retransmitted improper communications inadvertently.[7] This approach would facilitate high speed message forwarding yet retain a degree of protection against abuse. We also proposed to restate the definition of the term "repeater" in Section 97.3 of the Commission's Rules, 47 C.F.R. § 97.3, so as to preclude any confusion with the accommodations proposed for message forwarding systems.

4. The commenters generally support our approach. They agree with relieving the control operators of intermediate forwarding stations of the need to review every message.[8] Our proposal to retain the requirement for the control operator of the first forwarding station to be accountable for retransmitting improper communications, however, drew a mixed response. The American Radio Relay League, Inc., (League) states that the obligation of the control operator of the first forwarding station should be the establishment of the identity of the station originating the message. Only when this is not done should these control operators be held accountable for improper message content.[9] Comments from some amateur operators, however, do not deem it necessary to hold any control operator of a forwarding station accountable for improper

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[1] 8 FCC Rcd 2202 (1993).

[2] *See Notice* at para. 2.

[3] A message forwarding system is a group of amateur stations participating in a voluntary, cooperative, interactive arrangement where communications from the control operator of an originating station are transmitted to one or more destination stations via forwarding stations, which may or may not be automatically controlled.

[4] The amateur service VHF bands are the 6 meter (50-54 MHz), 2 meter (144-146 MHz), and 1.25 meter (222-225 MHz) bands. *See* Section 97.301(a) of the Commission's Rules, 47 C.F.R. § 97.301(a). Currently, the 2 meter band is the most popular band for digital message forwarding systems. The propagation characteristic of the 2 meter band generally is line-of-sight. *Ad hoc* systems comprised of thousands of VHF stations, however, blanket the United States and beyond.

[5] The American Radio Relay League, Inc. *AX.25 Amateur Packet-Radio Link-Layer Protocol, Version 2.0, October 1984,* for example, is operated in systems at rates that produce a communication capability of several hundred characters per second.

[6] Improper communications are communications prohibited by Section 97.113 of the Commission's Rules, 47 C.F.R. § 97.113. This section recently has been revised to lessen restrictions on communications that amateur stations may transmit. *See Report and Order,* PR Docket No. 92-136, 8 FCC Rcd 5072 (1993).

[7] Although control operators of forwarding stations other than the first forwarding station would no longer have to screen each message, they would be responsible for discontinuing communications that violate the rules once they become aware of their presence.

[8] *See,* for example, comments of Gary R. Mitchell at 1, Lee S. Parr at 2.

[9] Reply comments of the League at 4.

communications.[10] Another commenter recommends that the message format be regulated to assist in the identification of the originating station.[11]

5. There is no central supervisory authority in an *ad hoc* amateur service digital network. The vulnerability of an unsupervised system can make it an easy target for misuse by uncooperative operators and non-licensees. It can be difficult, moreover, to establish after the fact that a particular VHF station originated a fleeting high speed digital transmission. For these reasons, there must be on-going oversight of the system. The control operators of the first forwarding stations are in the best position to provide such oversight. They are the stations that accept, on behalf of the system, messages from originating stations.[12] We will, therefore, accept the League's recommendation. We are amending the rules substantially as proposed to hold accountable only the licensee of the station originating a message and the license of the first station forwarding a message in a high speed message forwarding system. The licensee of the first forwarding station must either authenticate the identity of the station from which it accepts communications on behalf of the system, *or* accept accountability for the content of the message.[13] The matter of message format, however, will be left with the designers of the systems. Since we believe our modification to the rule is sufficient to insure accountability for violative communications, we see no need to specify any particular message format. The League also requests that we clarify which station in a message forwarding system is the first forwarding station.[14] The answer is that it is the station that receives a communication directly from the originating station and introduces it into the message forwarding system.

6. The comments also agree generally that the accommodations for message forwarding systems should not apply to other operating activities such as repeaters and auxiliary stations.[15] The League and the Colorado Council of Amateur Radio Clubs (CCARC), among others, suggest that we substitute the word "simultaneously" for "instantaneously" in the redefinition of a repeater.[16] We concur with the comments and will adopt these modifications.

7. In summary, we have decided to amend the amateur service rules to accommodate message forwarding systems. We believe these rule changes will enable contemporary high speed message forwarding systems to operate as their designers intended, while retaining the minimum safeguards necessary to prevent misuse.

III. ORDERING CLAUSES

8. Accordingly, IT IS ORDERED that effective **June 1, 1994**, Part 97 of the Commission's Rules, 47 C.F.R. Part 97, IS AMENDED as set forth below. Authority for this action is found in Sections 4(f)(4)(A), (B), and (J), 4(i), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(f)(4)(A), (B),and (J), 154(i), and 303(r).

9. IT IS FURTHER ORDERED that this proceeding IS TERMINATED.

10. For further information, contact William T. Cross, Personal Radio Branch, (202) 632-4964.

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary

APPENDIX

Part 97 of Chapter I of Title 47 of the Code of Federal Regulations is amended as follows:

Part 97-Amateur Radio Service

1. The authority citation for Part 97 continues to read as follows:

Authority: 48 Stat. 1066, 1082, as amended; 47 U.S.C. §§ 154, 303. Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C. §§ 151-155, 301-609, unless otherwise noted.

2. Section 97.3 is amended by redesignating paragraphs (a)(28) through (a)(44) as paragraphs (a)(29) through (a)(45), respectively, adding a new paragraph (a)(28), and revising paragraph (a)(7) and redesignated paragraph (a)(36) to read as follows:

§ 97.3 Definitions.

(a) ***

(7) *Auxiliary station.* An amateur station, other than in a message forwarding system, that is transmitting communications point-to-point within a system of cooperating amateur stations.

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(28) *Message forwarding system.* A group of amateur stations participating in a voluntary, cooperative, interactive arrangement where communications are sent from the con-

[10] *See,* for example, comment of Charles L. Furlong at 1, James L. Reese at 1, Colorado Council of Amateur Radio Clubs at 1.

[11] Comments of Alfred T. Yeager II at 1.

[12] The American Radio Relay League Inc. *AX.25 Amateur Packet-Radio Link-Layer Protocol, Version 2.0, October 1984,* for example, incorporates provisions to record the trail of message forwarding stations for each message communicated.

[13] We note that originator authentication techniques in the amateur service are under discussion. See, for example, Jon Bloom, *Empirically Speaking,* QEX ARRL Experimenter's Exchange 2 (November, 1993).

[14] Comments of the League at 15.

[15] *See,* for example, comments of Jay O Brien at 1.

[16] Comments of the League at 16, Colorado Council of Amateur Radio Clubs at 3.

trol operator of an originating station to the control operator of one or more destination stations by one or more forwarding stations.

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(36) *Repeater.* An amateur station that simultaneously retransmits the transmission of another amateur station on a different channel or channels.

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3. Section 97.109(e) is revised to read as follows:

§ 97.109 Station control.

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(e) No station may be automatically controlled while transmitting third party communications, except a station participating as a forwarding station in a message forwarding system.

4. Section 97.205 is amended by adding new paragraph (g) to read as follows:

§ 97.205 Repeater station.

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(g) The control operator of a repeater that retransmits inadvertently communications that violate the rules in this Part is not accountable for the violative communications.

5. Section 97.216 is redesignated as Section 97.217.

6. Section 97.219 is added to read as follows:

§ 97.219 Message forwarding system.

(a) Any amateur station may participate in a message forwarding system, subject to the privileges of the class of operator license held.

(b) For stations participating in a message forwarding system, the control operator of the station originating a message is primarily accountable for any violation of the rules in this Part contained in the message.

(c) Except as noted in paragraph (d) of this section, for stations participating in a message forwarding system, the control operators of forwarding stations that retransmit inadvertently communications that violate the rules in this Part are not accountable for the violative communications. They are, however, responsible for discontinuing such communications once they become aware of their presence.

(d) For stations participating in a message forwarding system, the control operator of the first forwarding station must:

(1) Authenticate the identity of the station from which it accepts communications on behalf of the system; or

(2) Accept accountability for any violation of the rules in this Part contained in messages it retransmits to the system.